

# **REPORTABLE INFECTIOUS DISEASES IN ALASKA**

**2008–2012 Summary**

*Last updated 7/10/2013*

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## INTRODUCTION

### Purpose

The purpose of this report is to provide trend information for select reportable diseases in the State of Alaska between 2008 and 2012.

### Infectious Disease Surveillance in Alaska

The Alaska Division of Public Health, Section of Epidemiology's (SOE) ability to detect and investigate infectious disease outbreaks depends on robust, consistent, and timely reporting by health care providers. Information on how providers and laboratories can [report](#) to SOE, as well as a [complete list of diseases](#) mandated by regulation to be reported to Alaska public health authorities, can be found at <http://www.epi.alaska.gov/pubs/conditions>.

### Select Reportable Disease Summaries

Diseases were selected for inclusion in this report based on their public health significance and frequency of occurrence. [Case definitions](#) from the Centers for Disease Control and Prevention are available at: <http://wwwn.cdc.gov/nndss/script/casedefDefault.aspx>.

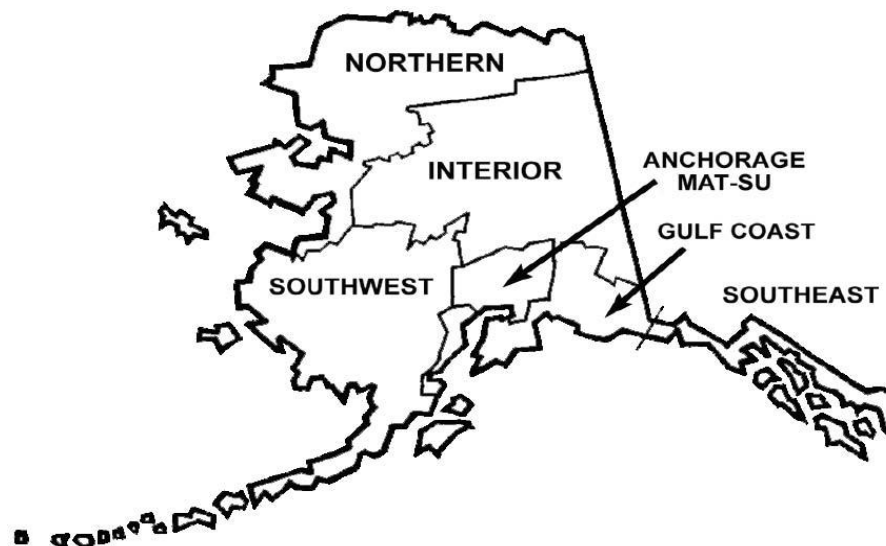
Cases without a known onset date are attributed to the date of specimen collection, diagnosis, or report to SOE, whichever was earliest. National reporting standards assign cases to the patient's state of residence, meaning that some diseases reported to SOE may have actually been acquired outside of Alaska.

### Technical Notes

This document is best viewed electronically. Items with [purple](#) font are embedded with links which will take you to appropriate content within this document or on the internet. Clicking the names of the diseases in the [Table of Contents](#) above will take you to the relevant page within this document. Clicking the [Return to Table of Contents](#) link at the bottom of each page in this document will take you back to the [Table of Contents](#). Clicking the disease names on their respective pages below will take you to relevant SOE webpage. Alternatively, relevant SOE webpages may be found by navigating to <http://www.epi.alaska.gov>.

### Annual Infectious Disease Report

The annual summary *Bulletin* of reportable conditions for 2011 and 2012, with disease counts and region information, can be found at [http://www.epi.alaska.gov/bulletins/docs/b2013\\_14.pdf](http://www.epi.alaska.gov/bulletins/docs/b2013_14.pdf).



## BOTULISM

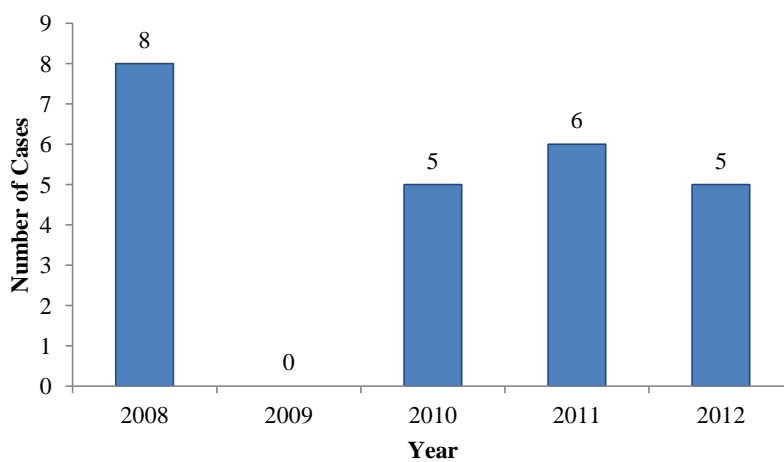
From 2008–2012, 24 cases of botulism were reported to SOE, 23 of which were foodborne (Figure 1). Five cases of botulism poisoning, representing five outbreaks, were reported in 2012. The age range of patients with botulism poisoning was 27–77 years (median age: 46 years); three (60%) were male. All five ill persons were hospitalized with an average initial stay of 11 days. Additionally, one patient required transfer to an extended care facility for long-term care.

All 23 cases of foodborne botulism were associated with eating traditionally prepared Alaska Native foods. Foods identified as sources for these outbreaks included aged fish, fish heads, beaver tail, and seal and fish oil.

One case of infant botulism was reported in 2009, accounting for the first use of **BabyBIG® in Alaska**.<sup>1</sup>

Health care providers should be aware of the possibility of botulism poisoning among patients presenting with gastrointestinal symptoms, symmetrical, descending CNS paralysis, and a recent history of eating fermented foods. Expert medical consultation from SOE is available 24-hours a day, year round, along with rapid provision of botulism antitoxin. In April 2013, antitoxin product switched from an investigational product to a product licensed by the FDA (BAT™). A **Botulism Monograph**, a guide to diagnosis and treatment of botulism in Alaska for physicians and health care providers, is available online.<sup>2</sup>

**Figure 1.** Reports of Botulism by Year — Alaska, 2008–2012



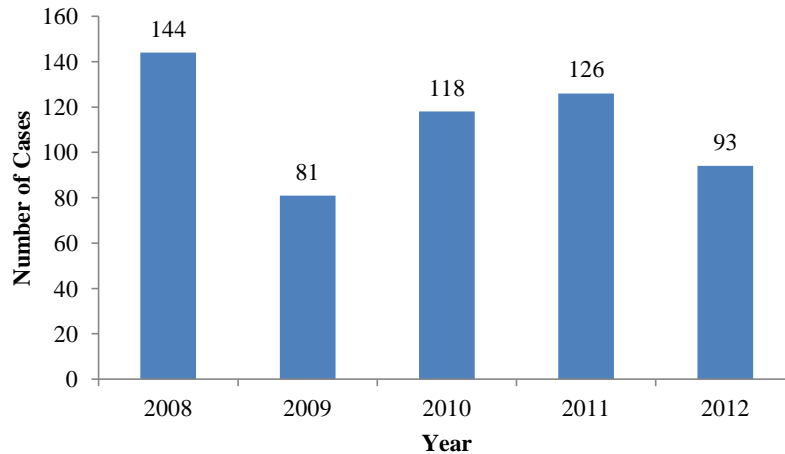
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1. Alaska Section of Epidemiology. Infant Botulism – Interior Alaska, March 2009. *Bulletin* No. 17 July 15, 2009. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2009\\_17.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2009_17.pdf)
2. Alaska Section of Epidemiology. Botulism in Alaska: A guide for physicians and healthcare providers, 2011 Update. Available at: <http://www.epi.alaska.gov/id/botulism/monograph.htm>

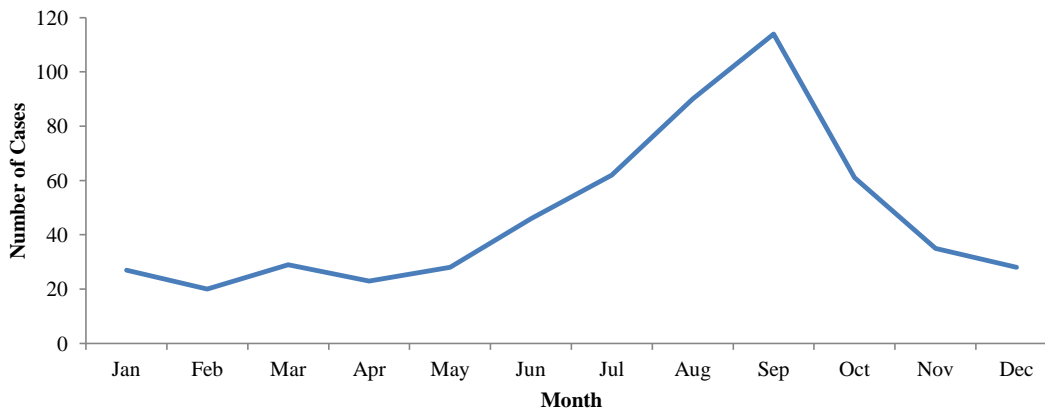
## CAMPYLOBACTER

Alaska averages about 110 cases of campylobacter each year (Figure 1). The average annual number of cases of campylobacter has increased by more than 50% when compared to data from 1998-2007, when the average number of cases was 70 cases per year.<sup>1</sup> Reported cases of campylobacter infection have shown an increase during the summer months (Figure 2). Most cases occur sporadically with no source identified. However, two notable outbreaks were identified in 2008 and 2011, associated with consumption of raw peas and raw milk respectively.<sup>2,3</sup> No major clusters of campylobacter infection were identified in 2012.

**Figure 1.** Reports of Campylobacter Infections by Year — Alaska, 2008–2012



**Figure 2.** Reports of Campylobacter Infections by Onset Month — Alaska, 2008–2012



### References

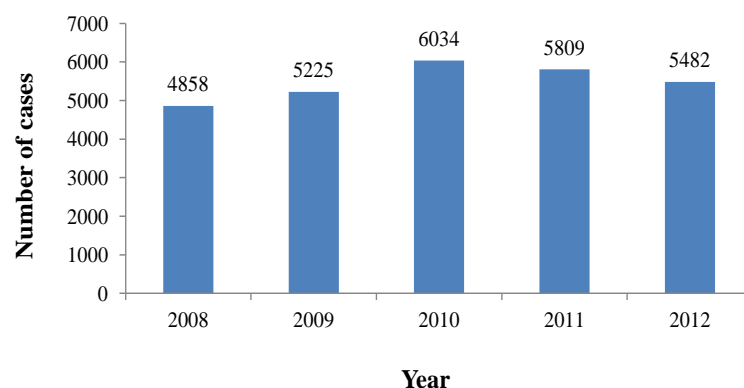
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2. Alaska Section of Epidemiology. Campylobacteriosis Outbreak due to Consumption of Raw Peas — Alaska, 2008. *Bulletin* No. 20 October 8, 2008. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2008\\_20.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2008_20.pdf)
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## CHLAMYDIA

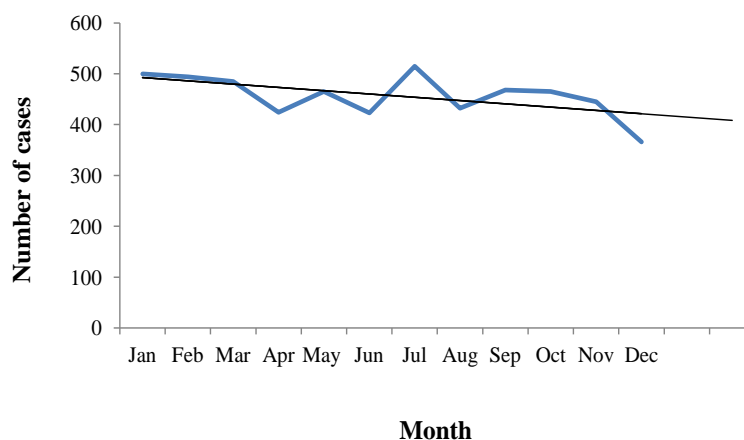
In 2012, 5,482 cases of chlamydial infection (CT) were reported to the SOE; Alaska's CT rate was 749 cases per 100,000 persons. This represents a 7% decrease in rates compared to 2011 data (Figure 1), the second consecutive year of declining numbers and rates.<sup>1</sup> This decreasing trend was sustained throughout 2012 (Figure 2). Alaska has ranked 1<sup>st</sup> or 2<sup>nd</sup> for CT rates nationally since 2000.

An interactive display of chlamydia data can be found at <http://www.epi.alaska.gov/hivstd/std2010/atlas.html>.

**Figure 1.** Reports of Chlamydial Infections by Year — Alaska, 2008–2012



**Figure 2.** Reports of Chlamydial Infections by Onset Month — Alaska, 2012



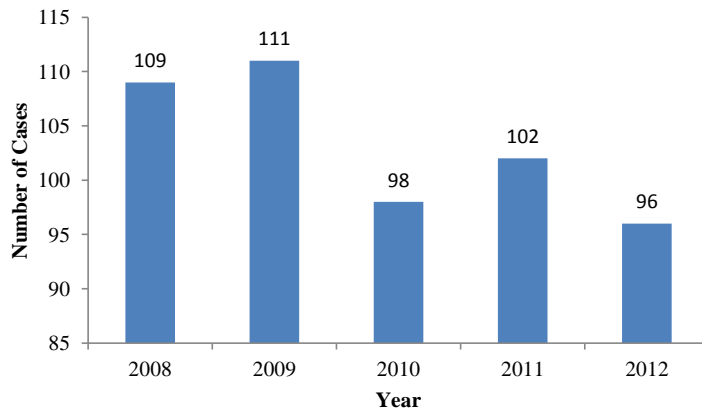
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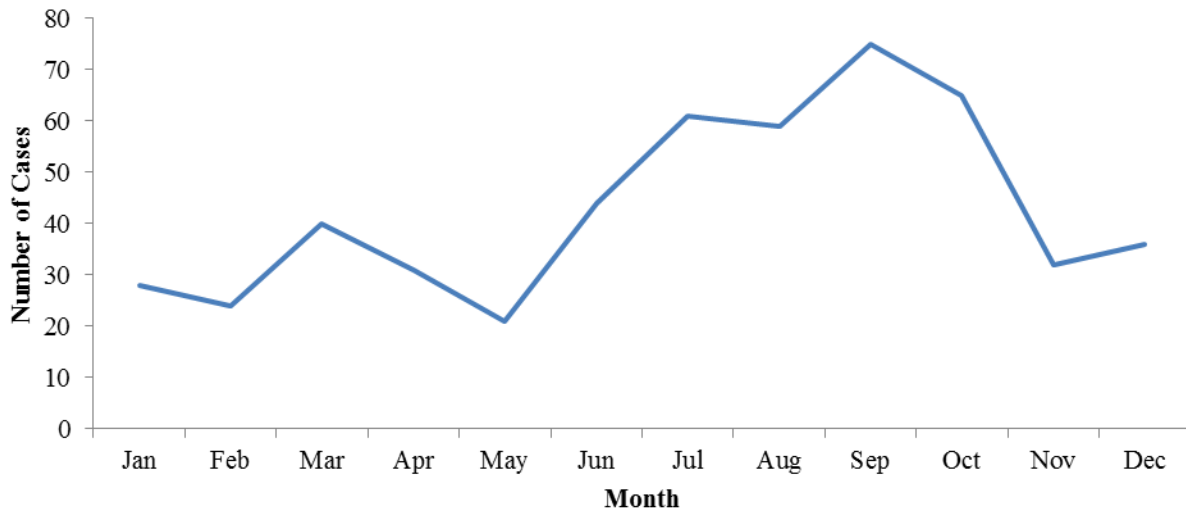
## GIARDIA

Alaska averages about 100 cases of giardiasis each year (Figure 1). Giardia is a well known inhabitant of Alaska's surface waters. Cases of giardia have shown an increase during the summer months and the fall hunting season (Figure 2). Most cases occur sporadically with no source identified. However, during the summer of 2012, one major outbreak of giardia was identified and investigated. Twenty-one ill patients were identified and the source was determined to be contaminated spring water.

**Figure 1.** Reports of Giardia Infections by Year — Alaska, 2008–2012



**Figure 2.** Reports of Giardia Infections by Onset Month — Alaska, 2008–2012

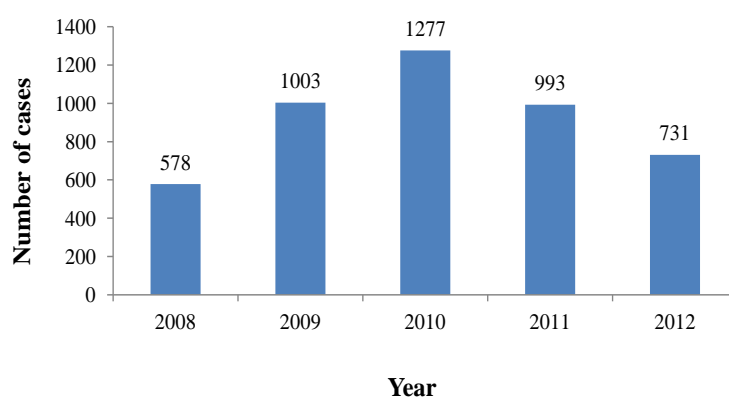


## GONORRHEA

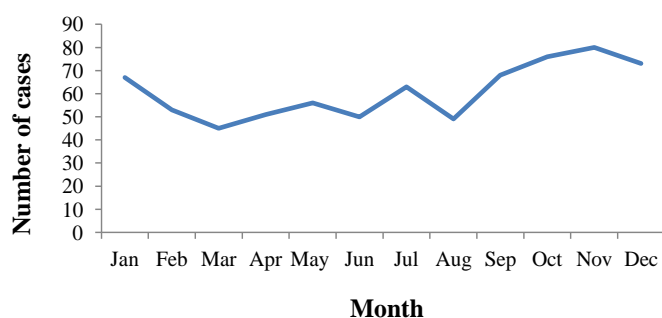
In 2012, 731 cases of gonococcal infection (GC) were reported to SOE; Alaska's GC rate was 100 cases per 100,000 persons. This represents a 26% decrease in reported cases and a 28% decrease in case rates compared to 2011 data (Figure 1). The HIV/STD Program described a 2009 increase in cases,<sup>1</sup> which peaked in 2010,<sup>2</sup> with a case rate of 179 cases per 100,000 persons; this rate was the third highest in the United States.

Although the annual case numbers and rates have declined for two consecutive years, it is important to note that the number of GC cases reported in the final quarter (n=229) accounts for 31% of the total reported cases in 2012 (Figure 2). The average number of GC case reports was 56 cases per month from January through September, while the monthly average was 76 cases from October through December. An interactive display of gonorrhea data can be found at <http://www.epi.alaska.gov/hivstd/std2010/atlas.html>.

**Figure 1.** Reports of Gonococcal Infections by Year — Alaska, 2008–2012



**Figure 2.** Reports of Gonococcal Infections by Onset Month — Alaska, 2012



## References

1. Alaska Section of Epidemiology. Statewide Increase in Gonococcal Infection – Alaska, 2009. *Bulletin* No. 6 March 9, 2010. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2010\\_06.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2010_06.pdf)
2. Alaska Section of Epidemiology. Gonococcal Infection Update – Alaska, 2010. *Bulletin* No. 11 May 3, 2011. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2011\\_11.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2011_11.pdf)

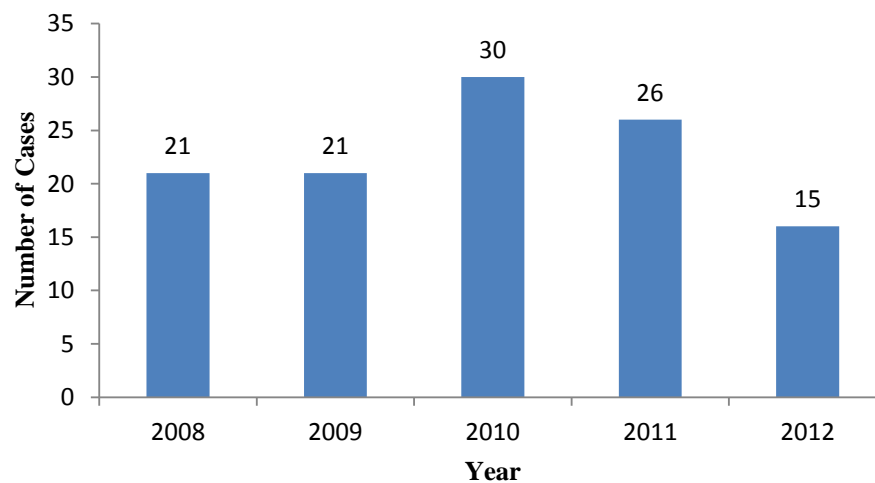


## HAEMOPHILUS INFLUENZA INVASIVE DISEASE

SOE received 113 reports of invasive *Haemophilus influenzae* cases from 2008-2012. In 2012, 15 cases of *H. influenzae* were reported to SOE (Figure 1). During 2012, just under half (7) of the cases had non-typable serogroups. Of the 8 cases with typable serogroups, 4 (50%) were serogroup F, 3 (38%) were serogroup A, and 1 (12%) was serogroup B. The 2012 individual with *H. influenzae* type B was an adult. Four cases of *H. influenzae* type B were reported in children <10 years of age from [Southwestern Alaska in 2009](#).<sup>1</sup>

SOE works closely with the Centers for Disease Control and Prevention's [Arctic Investigations Program](#) (AIP)<sup>2</sup> on *H. influenzae* investigations. In addition to providing support for infectious disease research projects, AIP assists in investigating and performs laboratory testing for various invasive disease-causing bacteria such as *H. influenzae*.

**Figure 1.** Reports of *Haemophilus influenzae* Invasive Disease by Year — Alaska, 2008–2012



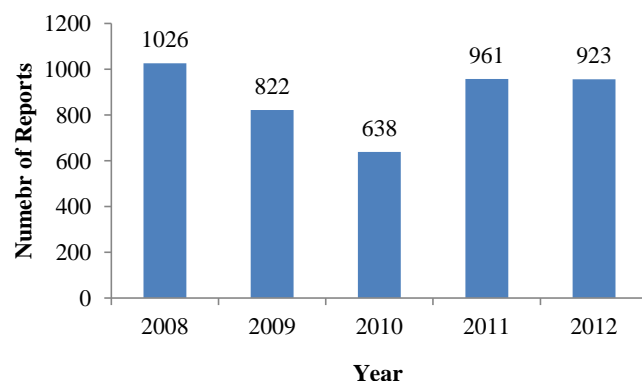
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1. Alaska Section of Epidemiology. Four Cases of Invasive *Haemophilus influenzae* Type b – Southwestern Alaska, 2009. *Bulletin* No. 19 August 11, 2009. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2009\\_19.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2009_19.pdf)
2. Website for Arctic Investigations Program - <http://www.cdc.gov/ncezid/dpei/aip/>

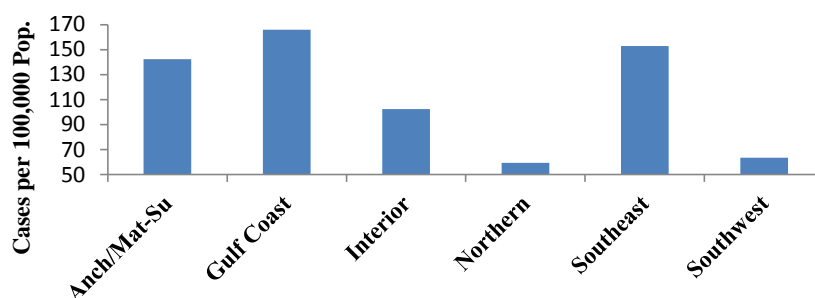
## HEPATITIS C

From 2008-2012, SOE received an average of 874 reports annually of Hepatitis C virus (HCV) infection. In 2012, 923 new reports of HCV infection were received (Figure 1). It is important to note that these data represent newly reported cases of either acute cases or chronic cases not previously known about. Rates of HCV reports were highest in the Gulf Coast, Southeast, and Anchorage/Mat-Su regions (Figure 2). Males comprised 55% of reported cases. A [Hepatitis C update](#) is available online, which summarizes reports of Hepatitis C from 2003-2012 in Alaska.<sup>1</sup>

**Figure 1.** Reports of Hepatitis C by Year — Alaska, 2008–2012



**Figure 2.** Reports of Hepatitis C by Region — Alaska 2012



## References

1. Alaska Section of Epidemiology. Hepatitis C Update - Alaska 2003–2012. *Bulletin* No. 13 May 15, 2013. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2013\\_13.pdf](http://www.epi.alaska.gov/bulletins/docs/b2013_13.pdf)

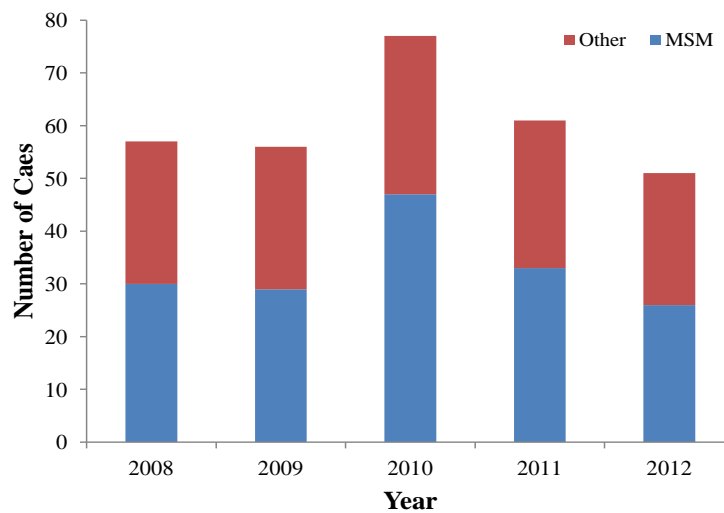
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## HIV

From January 1, 1982 through December 31, 2012, 1,482 cases of human immunodeficiency virus (HIV) infection were reported to SOE. Of these, 528 (36%) were in persons who are known to have subsequently died. During 2012, 51 cases of HIV infection were reported to SOE; none of these cases were in persons who are known to have died as of December 31, 2012. Of the 51 cases, 29 (57%) were initially diagnosed in [Alaska in 2012](#).<sup>1</sup>

The number of new HIV infections reported to SOE varies from year to year as Alaska is a low incidence jurisdiction. The most common risk factor is men who have sex with men (MSM), which represents over half of new infections each year (Figure 1).

**Figure 1. HIV Cases by Year and Risk Factor — Alaska, 2008–2012**



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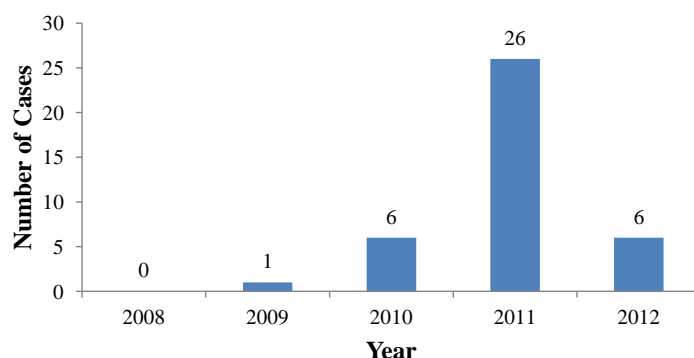
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## PARALYTIC SHELLFISH POISONING

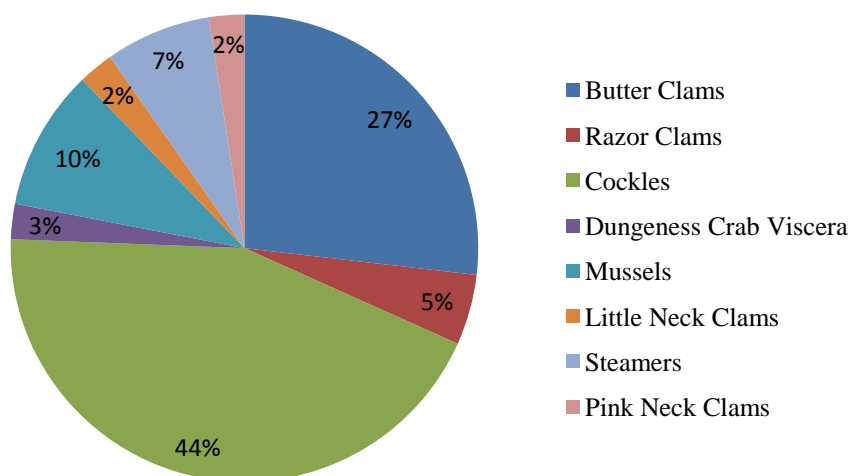
From 2008–2012, 39 cases of paralytic shellfish poisoning (PSP) were reported to SOE (Figure 1). Six cases representing three outbreaks were reported in 2012. The age range of patients with PSP was 13–72 years (median age: 56 years); 22 (58%) were male. All ill persons consumed self-harvested shellfish from Southeast Alaska or Kodiak Island. Shellfish consumed included mussels, cockles, Dungeness crab viscera, and several types of clams (Figure 2). During 2011, a [large outbreak](#)<sup>1</sup> accounting for 21 of the 26 cases from 2011 was identified in Metlakatla and Ketchikan that resulted in four hospitalizations. Two ill persons diagnosed with [PSP in 2010](#) died.<sup>2</sup>

The State of Alaska does not monitor or certify any beaches for toxins associated with PSP for the purposes of recreationally harvested shellfish, and the consumption of recreationally harvested shellfish is not advised. A [PSP factsheet](#) is available online.<sup>3</sup>

**Figure 1.** Reports of PSP by Year — Alaska, 2008–2012



**Figure 2.** Shellfish Consumed by PSP Confirmed Cases — Alaska, 2008–2012



## References

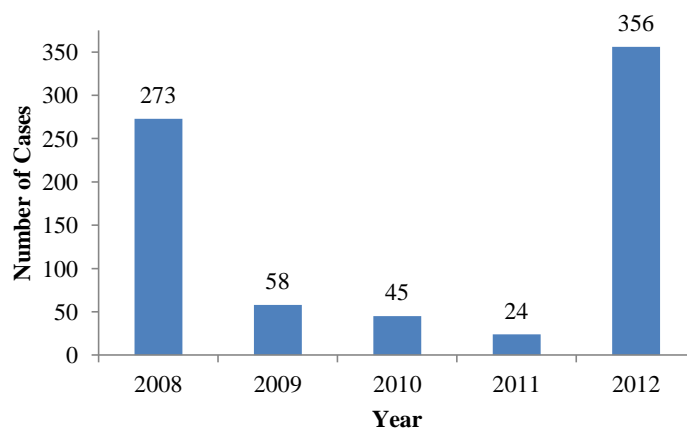
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2. Alaska Section of Epidemiology. Paralytic Shellfish Poisoning in Juneau, Kodiak, and Haines, June 2010. *Bulletin* No. 17 June 23 2010. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2010\\_17.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2010_17.pdf)
3. Paralytic shellfish poisoning factsheet. Available at <http://www.epi.alaska.gov/id/dod/psp>

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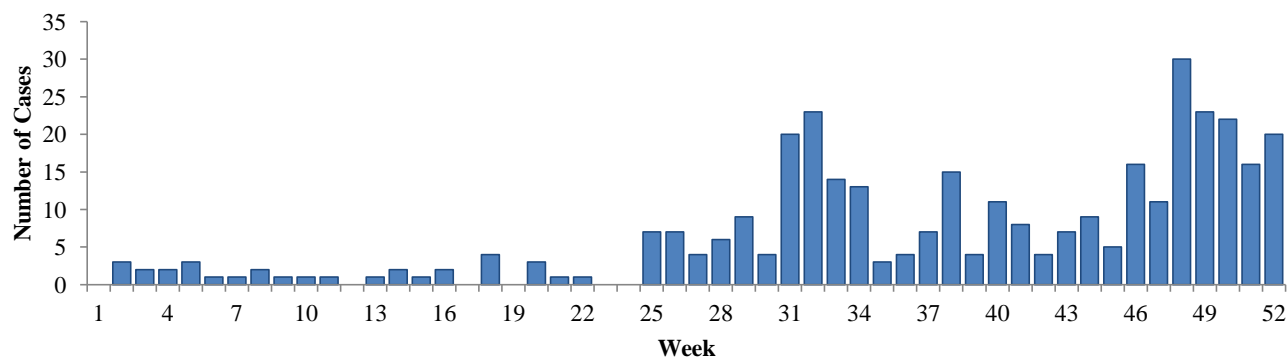
## PERTUSSIS

In 2008, an **outbreak** of pertussis in Juneau accounted for 111 reports of pertussis, with a total of 273 cases reported that year.<sup>1</sup> This far exceeded the typical number of cases reported, but was **surpassed in 2012**.<sup>2</sup> During 2012, 356 cases of pertussis were reported to SOE, yielding an incidence of 48.6 cases per 100,000 persons (Figure 1). This far surpassed the national rate of 13.4 cases for 100,000 population in 2012, and many states reported rates substantially higher than the Alaska rate.<sup>3</sup> Case counts increased precipitously in late July and remained high through the last week of December (Figure 2). Vaccination status at time of illness was known for 80% of the cases; of those, 59% were up-to-date.<sup>2</sup>

**Figure 1. Reports of Pertussis by Year — Alaska, 2008–2012**



**Figure 2. Reports of Pertussis Cases by Onset Week — Alaska, 2012**



### References

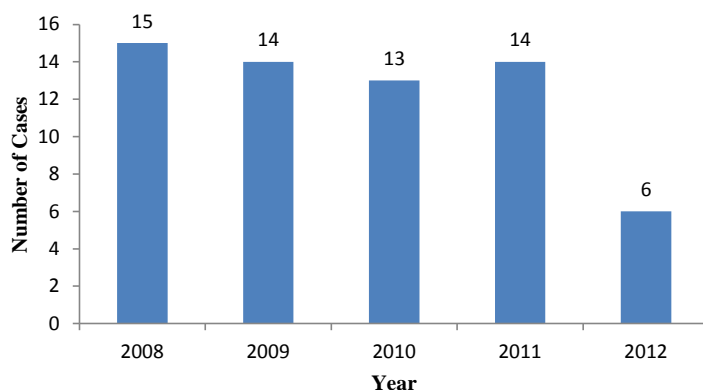
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2. Alaska Section of Epidemiology. Pertussis Epidemic – Alaska, 2012. *Bulletin* No. 5 January 30, 2013. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2013\\_05.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2013_05.pdf)
3. CDC. 2012 Provisional Pertussis Surveillance Report. March 19, 2013. Available at: <http://www.cdc.gov/pertussis/downloads/Provisional-Pertussis-Surveillance-Report.pdf>

## RABIES - ANIMAL

There were six cases of animal rabies confirmed at Alaska State Virology Lab (ASVL) in 2012, a decrease from the numbers reported from 2008-2011 (Figure 1). The priorities for testing at ASVL have been animals for which there are public health actions associated, such as to determine whether an exposed human would need administration of rabies post-exposure prophylaxis (PEP), or appropriate follow-up for another animal exposed to the suspected rabid one. In March 2011, CDC trained staff from the Alaska Department of Fish and Game (ADF&G), the University of Alaska Fairbanks (UAF), and the USDA Wildlife Services (USDA-WS) in field screening dRIT (direct rapid immunohistochemical test) methods. In the first year of the program, 2011, the number of animals evaluated by dRIT was ~350, compared to the ~30 evaluated by ASVL. All animals positive by dRIT must be confirmed by DFA (direct fluorescent antibody) at CDC.

Recently in 2012, ADFG [reported](#) on a wolverine that was determined to be positive for rabies via dRIT and via DFA at CDC. This was an animal that was found dead by biologists and was the first known wolverine to test positive not only in Alaska, but in the nation.<sup>1</sup>

**Figure 1.** Cases of animal rabies documented by ASVL, 2008–2012



## References

1. ADFG Wildlife News. Available at: Read more about the specific scenario here:  
[http://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneews.view\\_article&articles\\_id=582](http://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneews.view_article&articles_id=582)

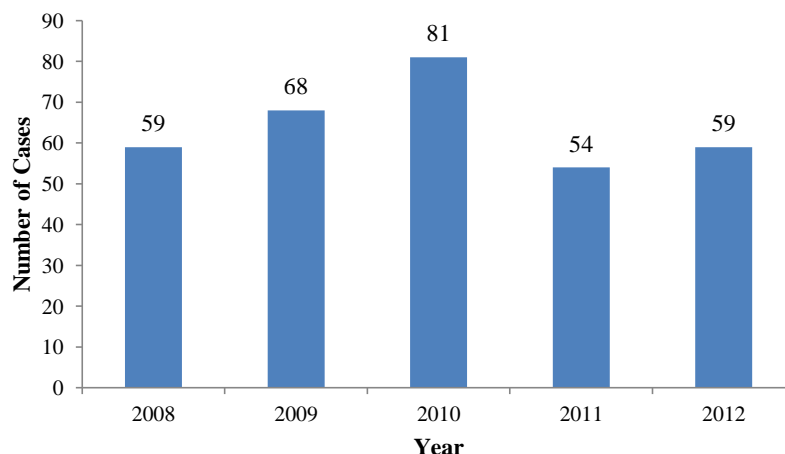
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## SALMONELLA

Most cases of salmonella reported from 2008-2012 were sporadic with no identified source. However, 17 cases reported to SOE in 2012 were linked to six national outbreaks. Eleven of these cases were part of an *S. enteritidis* outbreak linked to poultry from a single producer that sickened over 120 people in 13 states.<sup>1</sup> Fifty-nine total cases of salmonella were identified in Alaska during 2012 (Figure 1). The three most common serotypes identified were: Heidelberg (14 cases), Enteritidis (13 cases), and Typhimurium (4 cases).

Alaska cases that were linked to national outbreaks were identified through pulsed-field gel electrophoresis<sup>2</sup> (PFGE) at the Alaska State Public Health Laboratory (ASPHL).

**Figure 1.** Reports of Salmonella Infections by Year — Alaska, 2008–2012



## References

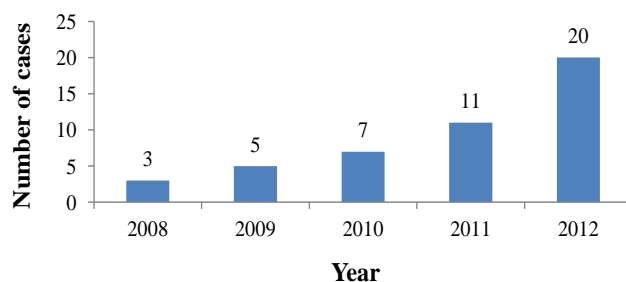
1. Marsden-Haug, N *et al.* Multi State Outbreak of *Salmonella enterica* serotype Heidelberg Infections Linked to a Single Poultry Producer --- United States, 2012-2013. *MMWR* In press.
2. Alaska Section of Epidemiology. Pulsed Field Gel Electrophoresis in Alaska: A Tool to Assist Epidemiologic Investigations. Bulletin No. 01 January 11, 2008. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2008\\_01.pdf](http://www.epi.alaska.gov/bulletins/docs/b2008_01.pdf)

## SYPHILIS

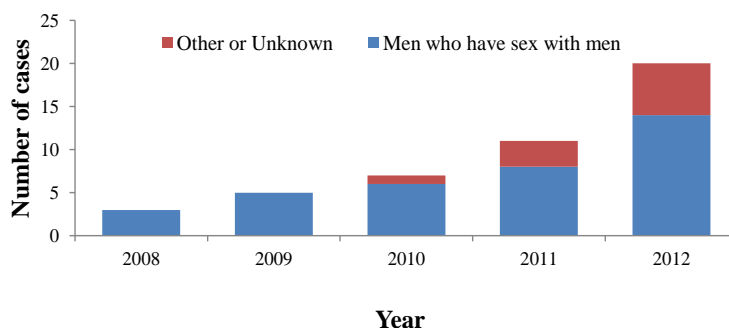
In 2012, 20 cases of early syphilis (primary, secondary, and early latent) were reported to SOE, for a rate of 2.7 cases per 100,000 persons (Figure 1). In Alaska, infectious syphilis had been a rare event for more many years until a syphilis outbreak<sup>1</sup> was declared in 2004, and again<sup>2</sup> in 2012. Preliminary data for 2013 indicates that this most recent outbreak is not over.

Men who have sex with men (MSM) account for the majority of these cases (Figure 2). Common risk factors among those diagnosed with early syphilis include multiple anonymous partners often found through various internet sites.

**Figure 1.** Reports of Early Syphilis Infections by Year — Alaska, 2008–2012



**Figure 2.** Reports of Early Syphilis Infections by Year and Risk Factor — Alaska, 2008–2012



## References

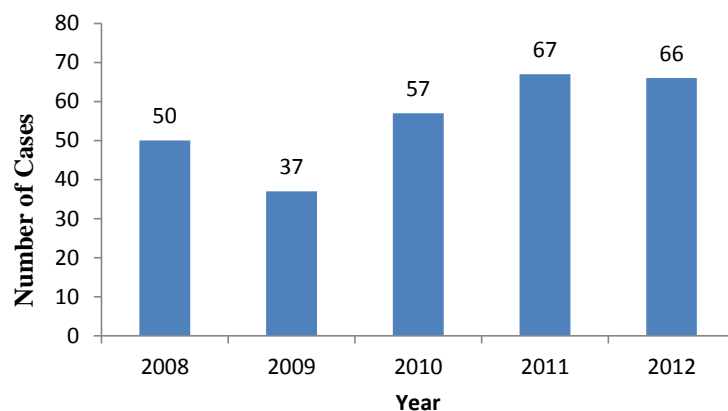
1. Alaska Section of Epidemiology. Outbreak of Infectious Syphilis in Alaska. *Bulletin* No. 29 December 13, 2004. Available at: [http://www.epi.hss.state.ak.us/bulletins/docs/b2004\\_29.pdf](http://www.epi.hss.state.ak.us/bulletins/docs/b2004_29.pdf)
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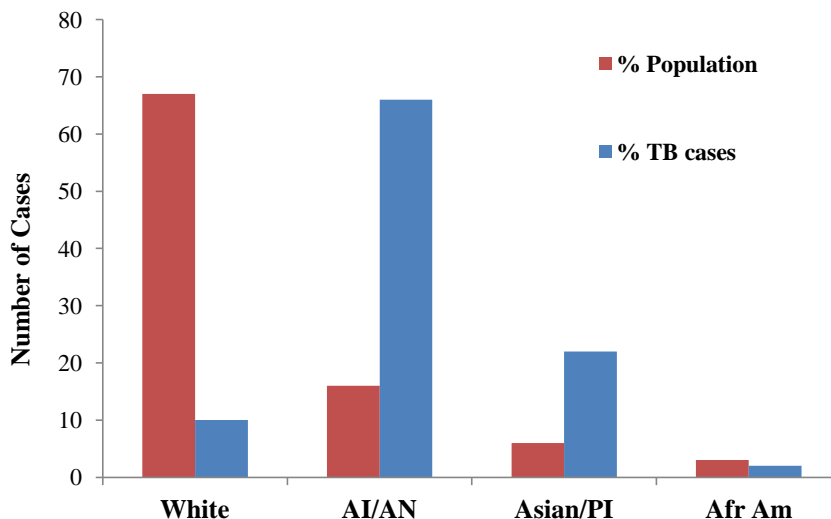
## TUBERCULOSIS

In 2012, 66 cases of tuberculosis were reported to SOE, compared to 67 cases the prior year, yielding an annual incidence of 9.0 cases per 100,000 population; this is well above the national rate of 3.1 cases per 100,000 population in 2012 (Figure 1).<sup>1</sup> The Southwest and Northern Regions of Alaska traditionally have the highest tuberculosis rates. Alaska Natives (AI/AN) and Asian/ Pacific Islanders (Asian/PI) bear a disproportionate burden of TB in Alaska (Figure 2). There was one case of multi-drug resistant TB in 2012 as well as one in 2010 and four in 2011. The 2012 annual tuberculosis report,<sup>1</sup> as well as more information about the [Alaska Tuberculosis Control Program](http://www.epi.hss.state.ak.us/id/tb.stm),<sup>2</sup> can be found online.

**Figure 1. Report of Tuberculosis by Year — Alaska, 2008–2012**



**Figure 2. Racial Demographics of TB in Alaska from 2008–2012 compared to Alaska 2011 Population Estimates**



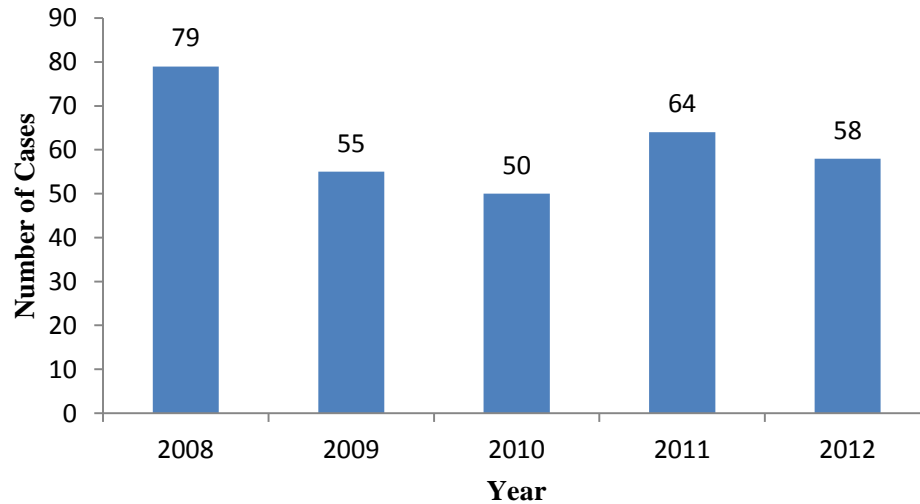
### References

1. Alaska Section of Epidemiology. Tuberculosis in Alaska 2012 Annual Report. Available at: <http://www.epi.hss.state.ak.us/pubs/webtb/TBAnnualReport2012.pdf>
2. Tuberculosis Control Program Information. Available at: <http://www.epi.hss.state.ak.us/id/tb.stm>

## VARICELLA

Alaska averages 61 cases of varicella annually (Figure 1). A spike in varicella cases occurred in the fall of 2012 in Kenai communities with low vaccination rates. A Public Health Advisory was published and an [investigation](#)<sup>1</sup> was completed. Twelve cases were confirmed among school age children attending four schools in Homer.

**Figure 1.** Reports of Varicella — Alaska, 2008–2012



### References

1. Alaska Section of Epidemiology. Outbreak of Chickenpox at a Child Care Facility – Kenai Peninsula, 2011. Bulletin No. 6 March 7, 2012. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2012\\_06.pdf](http://www.epi.alaska.gov/bulletins/docs/b2012_06.pdf)